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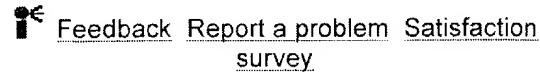
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Paper augmented digital documents

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[Proceedings of the 16th annual ACM symposium on User interface software and technology](#)
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Pages: 51 - 60
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ISBN:1-58113-636-6**Author** [François Guimbretière](#) Department of Computer Science, Human-Computer Interaction Lab, University of Maryland, College Park, MD**Sponsors** : Pacific Northwest National Laboratory
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↑ ABSTRACT

Paper Augmented Digital Documents (PADDS) are digital documents that can be manipulated either on a computer screen or on paper. PADDS, and the infrastructure supporting them, can be seen as a bridge between the digital and the paper worlds. As digital documents, PADDS are easy to edit, distribute and archive; as paper documents, PADDS are easy to navigate, annotate and well accepted in social settings. The chimeric nature of PADDS make them well suited for many tasks such as proofreading, editing, and annotation of large format document like blueprints. We are presenting an architecture which supports the seamless manipulation of PADDS using today's technologies and reports on the lessons we learned while implementing the first PADD system.

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Note: OCR errors may be found in this Reference List extracted from the full text article. ACM has opted to expose the complete List rather than only correct and linked references.

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↑ INDEX TERMS

Primary Classification:

[H. Information Systems](#)

↳ [H.3 INFORMATION STORAGE AND RETRIEVAL](#)

↳ [H.3.7 Digital Libraries](#)

Additional Classification:

[H. Information Systems](#)

↳ [H.5 INFORMATION INTERFACES AND PRESENTATION \(I.7\)](#)

↳ [H.5.2 User Interfaces \(D.2.2, H.1.2, I.3.6\)](#)

↳ **Subjects:** Theory and methods; Input devices and strategies (e.g., mouse, touchscreen)

General Terms:

[Design](#), [Theory](#)

Keywords:

[PADD](#), [anoto](#), [digital pen](#), [paper augmented digital document](#), [paper based user interface](#)

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1 Human-computer interface development: concepts and systems for its management

H. Rex Hartson, Deborah Hix

March 1989 **ACM Computing Surveys (CSUR)**, Volume 21 Issue 1Full text available: [pdf\(7.97 MB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Human-computer interface management, from a computer science viewpoint, focuses on the production of quality human-computer interfaces, including their representation, design, implementation, execution and maintenance. This survey presents important concepts of interface management: dialogue independence, structural modeling, representation, interactive tools, rapid prototyping, development methodologies, and structures. *Dialogue independence* is the ...

2 Geographic Data Processing

George Nagy, Sharad Wagle

June 1979 **ACM Computing Surveys (CSUR)**, Volume 11 Issue 2Full text available: [pdf\(4.20 MB\)](#)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)
3 Spoken dialogue technology: enabling the conversational user interface
March 2002 **ACM Computing Surveys (CSUR)**, Volume 34 Issue 1Full text available: [pdf\(987.69 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Spoken dialogue systems allow users to interact with computer-based applications such as database systems by using natural spoken language. The origins of spoken dialogue systems can be traced to the 1950s and 1960s, with the first work in this area being done by Alan Turing and others. Intelligence research in the 1950s concerned with developing conversational interfaces. However, in the last decade or so, with major advances in speech technology, that large-scale working systems have been developed and, in some cases, introduced into commerce ...

Keywords: Dialogue management, human computer interaction, language generation, language processing, natural language processing, speech recognition, speech synthesis

4 Interactive Editing Systems: Part II

Norman Meyrowitz, Andries van Dam

September 1982 **ACM Computing Surveys (CSUR)**, Volume 14 Issue 3

Full text available:

Additional Information:

A selection of the definitions prepared by the ACM Standards Committee's Subcommittee on Program Terminology is presented for review by the ACM membership.

9 Behavioral Aspects of Text Editors

David W. Embley, George Nagy

January 1981 **ACM Computing Surveys (CSUR)**, Volume 13 Issue 1

Full text available:  pdf(3.44 MB)

Additional Information: [full citation](#), [references](#), [citations](#)

10 Status report of the graphic standards planning committee of ACM/SIGGRAPH: State-of-the software packages

Computer Graphics staff

September 1977 **ACM SIGGRAPH Computer Graphics**, Volume 11 Issue 3

Full text available:  pdf(9.03 MB)

Additional Information: [full citation](#), [references](#)

11 Virtual video editing in interactive multimedia applications

Wendy E. Mackay, Glorianna Davenport

July 1989 **Communications of the ACM**, Volume 32 Issue 7

Full text available:  pdf(2.33 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Drawing examples from four interrelated sets of multimedia tools and applications under development, the authors examine the role of digitized video in the areas of entertainment, learning, research, and education.

12 A structured APL approach to computer aided instruction

Wilbur R. LePage

September 1981 **ACM SIGAPL APL Quote Quad , Proceedings of the international conference on APL**, Volume 1 Issue 1

Full text available:  pdf(673.77 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The APL-based system for Computer Aided Instruction described in this paper is presented as a general system having interest in its own right, and also as an illustration of a "structured" approach to the relatively complex computing problem. The system meets the more or less mandatory requirements of the student user nor the teacher who creates the CAI instructional material should be required to know the features are the ease with which ...

13 Learning to use word processors: problems and prospects

Robert L. Mack, Clayton H. Lewis, John M. Carroll

July 1983 **ACM Transactions on Information Systems (TOIS)**, Volume 1 Issue 3

Full text available:  pdf(1.19 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

14 DOCUMENTS: an interactive online solution to four documentation problems

T. R. Girill, Clement H. Lulc

May 1983 **Communications of the ACM**, Volume 26 Issue 5

Full text available:  pdf(1.14 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

An adequate delivery system for user documentation addresses the problems of easy access, very convenient administration, and good document quality. At the National Magnetic Fusion Energy Computer DOCUMENT program helps solve these problems by providing a high level of service through strategies that can readily be exported to other contexts. Dividing machine-readable documents into keyword windows online, subject-oriented ...

Keywords: help packages, information retrieval, keywords, online catalogs, user assistance, user

15 A search algorithm and data structure for an efficient information system

Shou-chuan Yang

September 1969 **Proceedings of the 1969 conference on Computational linguistics**

Full text available:  pdf(1.54 MB)

Additional Information: [full citation](#), [abstract](#), [references](#)

This paper describes a system for information storage, retrieval, and updating, with special attention to the algorithm and data structure demanded for maximum program efficiency. The program efficiency is warranted when a natural language or a symbolic language is involved in the searching process. The framework for an efficient information system. It can be implemented for text processing and document retrieval; and for handling of large numerical data retrieval; and for handling of large ...

16 Document Formatting Systems: Survey, Concepts, and Issues

Richard Furuta, Jeffrey Scofield, Alan Shaw

September 1982 **ACM Computing Surveys (CSUR)**, Volume 14 Issue 3

Full text available:  pdf(5.36 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

17 New Methods in Automatic Extracting

H. P. Edmundson

April 1969 **Journal of the ACM (JACM)**, Volume 16 Issue 2

Full text available:  pdf(1.16 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper describes new methods of automatically extracting documents for screening purposes, selection of sentences having the greatest potential for conveying to the reader the substance of the previous work has focused on one component of sentence significance, namely, the presence of high content words (key words), the methods described here also treat three additional components: position (cue words); title and heading words; and structure ...

18 The evolution of the Sperry Univac 1100 series: a history, analysis, and projection

B. R. Borgerson, M. L. Hanson, P. A. Hartley

January 1978 **Communications of the ACM**, Volume 21 Issue 1

Full text available:  pdf(1.89 MB)

Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

The 1100 series systems are Sperry Univac's large-scale mainframe computer systems. Beginning in 1962, the 1100 series has progressed through a succession of eight compatible computer models. The system, the 1100/80, introduced in 1977. The 1100 series hardware architecture is based on a 36-bit complement structure which obtains one operand from storage and one from a high-speed register, from high-speed registers. The 1100 Operating System ...

Keywords: 1100 computer series, computer architecture, data management systems, end user facilities, control software, multiprocessing, multiprogramming, operating system, programming languages

19 Interactive Editing Systems: Part I

Norman Meyrowitz, Andries van Dam

September 1982 **ACM Computing Surveys (CSUR)**, Volume 14 Issue 3

Full text available:  pdf(3.08 MB)

Additional Information: [full citation](#), [citations](#), [index terms](#)

20 Invited papers—1: classification in information storage and retrieval

R. W. House, O. E. Taulbee

August 1965 **Proceedings of the 1965 20th national conference**

Full text available:  pdf(1.62 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

WHEN I WAS ASKED to give a tutorial paper on information storage and retrieval, my first thought was that I should give a state-of-the-art survey of the field. But then it was evident that much of the paper would be a "state-of-the-art" survey since there have been several recent review papers^{1, 2, 3}. Classification is a much more important concept than is often appreciated, and it is sometimes abused, in information storage and retrieval but in many other endeavours as well. The classification of information storage and retrieval is a ...

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